



LITTLE LEVER URBAN DISTRICT COUNCIL

A N N U A L R E P O R T

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

HEALTH AND SANITARY CONDITION

OF THE

URBAN DISTRICT OF LITTLE LEVER

FOR THE YEAR

1939

WM.MOTTERSHEAD. M.B., Ch.B.

MEDICAL OFFICER OF HEALTH

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

$$f(x) = \int_0^x \frac{1}{1+t^2} dt.$$

It is shown that the function $f(x)$ is increasing and concave down on the interval $(-\infty, \infty)$. Moreover, the function $f(x)$ is bounded on the interval $(-\infty, \infty)$.

$$\lim_{x \rightarrow -\infty} f(x) = 0, \quad \lim_{x \rightarrow \infty} f(x) = \frac{\pi}{2}.$$

2. In the second part of the paper, we study the properties of the function $g(x)$ defined by the equation

$$g(x) = \int_0^x \frac{1}{1+t^4} dt.$$

It is shown that the function $g(x)$ is increasing and concave down on the interval $(-\infty, \infty)$. Moreover, the function $g(x)$ is bounded on the interval $(-\infty, \infty)$.

$$\lim_{x \rightarrow -\infty} g(x) = 0, \quad \lim_{x \rightarrow \infty} g(x) = \frac{\pi}{4}.$$

$$g(x) = \frac{\pi}{4} - \frac{1}{4x^3} + O\left(\frac{1}{x^5}\right).$$

$$f(x) = \frac{\pi}{4} - \frac{1}{4x^3} + O\left(\frac{1}{x^5}\right).$$

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$$g(x) = \frac{\pi}{4} - \frac{1}{4x^3} + O\left(\frac{1}{x^5}\right).$$

LITTLE LEVER URBAN DISTRICT COUNCIL

PUBLIC HEALTH STAFF 1939

Medical Officer of Health (Part Time)

DR. WILLIAM MOTTERSHEAD M.B., Ch.B.

Albert Place, Little Lever.
(Telephone Farnworth 39)

Sanitary Inspector (Joint appointment Surveyor and
Sanitary Inspector)

WILLIAM PARKS, Cert. S.I.B., M.S.I.A. (to 28th Feb. 1939)

Council Offices, Little Lever.
(Telephone Farnworth 637)

CHARLES PERCY SIMPSON. (from 1st May 1939)

Council Offices, Little Lever
(Telephone Farnworth 637)

OTHER OFFICERS OF THE COUNCIL

Clerk and Accountant

THOMAS NUTTALL { up to 30th August 1939)
WILLIAM KELLY { from 10th September 1939)

Surveyor (Joint appointment Surveyor and Sanitary Inspector)

WILLIAM PARKS (to 28th February 1939)
CHARLES PERCY SIMPSON (from 1st May 1939)

Collector

JAMES C. COLLINGE

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH

For the Urban District of Little Lever
For the year 1939

To the Chairman and Members of the
Little Lever Urban District Council:

I have pleasure in submitting for your approval my Report, as Medical Officer of Health, on the health and sanitary conditions of Little Lever for the year ended December 31st 1939.

Statistics and Social Conditions of the Area.

The area of the township is 808 acres. The estimated population is 4,755 as against 4,756 in 1938 and 4,944 in the 1931 Census. There are 1,537 inhabited houses in the area, as against 1,429 in the 1931 Census, this giving a rate of about 3 persons per house. The rateable value of the district is £19,402, and the sum represented by a penny rate is £71. Social conditions are fairly good, and unemployment is now much less than it was in 1938. The district is largely industrial in character, the chief industries being coal mining, cotton spinning and weaving, paper making, ebonite manufacturing, chemical manufacturing and dairy farming.

Births.

The number of live births registered in 1939 was 59, a decrease of 11 on the preceding year. This figure is made up of 25 males and 34 females. There were 6 illegitimate births, 5 males and 1 female. The birth rate is 12.5 per 1,000 of population, as against 14.7 for 1938, and a mean rate of 13.2 for the previous five years. The birth rate for England and Wales for 1939 was 15.0.

Still-births.

The number of still-births in 1939 was 6 (3 males, 3 females) and is equal to a rate of 92 per 1,000 of total births as against 78 in 1938.

Deaths.

The number of deaths from all causes was 77 (37 males and 40 females)

This is an increase of 28 on the figure for 1938. The crude death rate for 1939 is 16.3 per 1,000 of population, as against 10.3 for 1938, and a mean crude death rate of 14.1 for the previous five years. The adjusted death rate for 1939 is 18.6 (comparability factor 1.14) whilst the death rate for England and Wales for 1939 was 12.1.

Infantile Mortality.

The number of deaths of children under one year in 1939, was 3 (2 males and one female) as against 2 in 1938. This gives a rate of 50 per 1,000 of live births, as against a rate of 28 in 1938 and a mean rate of 58 for the previous five years. The Infantile Mortality Rate for England and Wales for 1939 was 50.

Maternal Mortality.

There was one death from Puerperal Sepsis in 1939, giving a rate of 15.4 per 1,000 of total births, as against no deaths in 1938. The mean rate for the previous five years is 5.62. The Maternal Mortality Rate for England and Wales in 1939 was 2.82 per 1,000 of total births.

Causes of Death.

The following table shows the deaths from all causes in 1939:-

Cause	Males	Females
Diphtheria	-	1
Tuberculosis of Respiratory System	1	1
Cancer	3	7
Diabetes	-	1
Cerebral Haemorrhage etc.	2	1
Heart Disease	13	13
Other Circulatory Diseases	3	5
Bronchitis	1	1
Other Respiratory Diseases	1	1
Appendicitis	-	1
Cirrhosis of Liver	1	-
Other Liver Diseases	-	1
Puerperal Sepsis	-	1
Congenital Debility, Premature Birth etc.	2	1
Senility	5	2
Suicide	1	-
Other Defined Diseases	3	3
Ill-defined or not known	1	-
TOTALS:	37	40

Cancer and Malignant Disease.

The death rate from Cancer and Malignant Disease in 1939 was 2.12 per 1,000 of population, as against 1.26 in 1938, and a mean rate of 1.77 for the previous five years.

Tuberculosis.

New Cases and Mortality during 1939.

Age Periods Years	New Cases				Deaths			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-pulmonary	
	M	F	M	F	M	F	M	F
0 to 1								
1 to 5								
5 to 10								
10 to 15			1					
15 to 20								
20 to 25						1		
25 to 35	1				1			
35 to 45		1						
45 to 55								
55 to 65								
65 & upwards								
TOTALS	1	1	1	0	1	1	0	0
	2		1		2		0	

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY
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CHICAGO, ILL.

1968

At present, the only way to obtain a reliable estimate of the true value of the parameter is by using a large number of samples. This is because the variance of the estimator decreases as the sample size increases. In this paper, we propose a new method for estimating the true value of the parameter by using a small number of samples. The proposed method is based on the idea of using a small number of samples to estimate the true value of the parameter. The proposed method is based on the idea of using a small number of samples to estimate the true value of the parameter. The proposed method is based on the idea of using a small number of samples to estimate the true value of the parameter.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 200 million to 400 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The number of transformed cells was determined by the number of colonies obtained on the selective medium. The results are the mean of three independent experiments. Error bars represent the standard deviation.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

[illegible]

The death rate from Tuberculosis of the Respiratory System in 1939 was 0.42 per 1,000 of population, as against 0.63 in 1938, and a mean rate of 0.57 for the previous five years.

Midwifery Service.

There is one midwife resident in the district, but she is not now practising, and is not on the County list of midwives engaged by the County Council. Three midwives on the County Council list, all resident in Farnworth, are available for the people of Little Lever. As they are all on the telephone and have cars, there has been no difficulty and they appear to have given very efficient service in the district. Many women prefer to go to Townleys Hospital, Farnworth, for their confinement, and in 1939, about 52% of the registered births occurred in this hospital.

General Provision of Health Services for the District.

| <u>Clinics and Treatment Centres.</u> | <u>Situation.</u> | <u>Provided by.</u> |
|---------------------------------------|-------------------|---------------------|
| Maternity and Child Welfare | Little Lever. | Lancashire C.C. |
| Tuberculosis | Farnworth | " " |
| School Clinics | Little Lever. | " " |
| Venereal Diseases | Bolton. | " " |

Infectious Diseases.

The following cases of Infectious Diseases were notified during 1939:-

| Disease | Males. | Females. | Total. |
|----------------------------|--------|----------|--------|
| Scarlet Fever | 3 | 1 | 4 |
| Diphtheria | 3 | 10 | 13 |
| Acute Lobar Pneumonia | 2 | 2 | 4 |
| Cerebro-Spinal Fever | 1 | - | 1 |
| Pulmonary Tuberculosis | 1 | 1 | 2 |
| Non-Pulmonary Tuberculosis | 1 | - | 1 |
| Totals | 11 | 14 | 25 |

Notifiable Diseases (other than Tuberculosis) during 1939.

| Disease | Total cases notified | Cases sent to Hospital | Deaths in Hospital | Total deaths. |
|----------------------|----------------------|------------------------|--------------------|---------------|
| Scarlet Fever | 4 | 3 | Nil | Nil |
| Diphtheria | 13 | 12 | Nil | 1 |
| Acute Pneumonia | 4 | 1 | Nil | Nil |
| Cerebro-Spinal fever | 1 | 1 | Nil | Nil |
| Totals | 22 | 17 | Nil | 1 |

Ophthalmia Neonatorum.

No cases of this disease were notified during 1939.

District Nursing Association.

The District Nursing Association employs one nurse and is affiliated to the County Nursing Association. The members of the Committee have again given of their best for the Association and have maintained its sound financial position. The nurse has carried out her duties in an admirable and cheerful manner, whilst the general public have again shown their sympathy with the Association's objects by giving tangible support.

Hospital Accommodation.

The Council have an agreement with the Bury and District Joint Hospital Board for the reception and treatment of cases of Infectious Diseases. The Council is not yet a constituent member of the Board, but will be in the near future. Beds are available as required at the following Institutions.-

Small-pox Hospital, Ainsworth - for cases of small-pox.
Florence Nightingale Hospital - for other infectious diseases.
Bury.

Both Hospitals are controlled by the Bury and District Joint Hospital Board, and the retaining fees payable by the Council are:-

| | | |
|----------------|---|---------------|
| Small-pox | - | £20 per annum |
| Other diseases | - | £25 per annum |

An ambulance for cases of Infectious Diseases is provided by the Joint Board for conveying patients to the hospitals.

Voluntary Hospitals Arrangements.

The Council subscribe the following amounts:-

| | | |
|---|---|--------------------|
| Bolton Royal Infirmary | - | £10.10.0 per annum |
| Manchester and Salford Medical Charities | - | £30. 0.0 per annum |
| Little Lever District Nursing Association | - | £13.13.0 per annum |

The Council have an agreement with the Farnworth Urban District Council whereby the latter provide an ambulance for conveying patients from the district to the various hospitals.

Adoptive Acts in Force

Public Health Acts (Amendment Act) 1890, Part 4.
Public Health Acts (Amendment Act) 1907, Parts 2 and 4.
Public Health Acts 1925, part 2, except Sections 22 and 22.

Sanitary Accommodation.

The types of sanitary accommodation, with the number of each type at the end of 1939, were as follows:-

| | |
|--|-------|
| Privy Middens | 17 |
| Closets attached to these Middens | 24 |
| Pail Closets | 4 |
| Waste Water Closets | 99 |
| Fresh Water Closets | 1,450 |
| Movable Ashbins for refuse | 1,443 |
| Dry Ashpits (excluding middens) | 48 |
| No. of houses on Water Carriage system | 1,511 |

During 1939, there have been no conversions of privy middens, owing to the fact that all slum clearance Schemes have been postponed indefinitely. The Council do not contribute to the cost of conversions, and property owners have usually carried out the wishes of the Council without any trouble. The sewers in the back streets are laid under Private Street Works, and conversions are carried out under Section 36 of the Public Health Act 1875.

The number of premises visited during 1939 for the purpose of sanitary inspections, was 56. The number of nuisances discovered was 31. Of these, 28 were abated as a result of 31 informal notices, leaving three nuisances outstanding.

Bakehouses, Dairies and Cowsheds have all been periodically inspected and found to be in a satisfactory condition.

Factories and Workshops have also been periodically inspected and found to be in a satisfactory condition.

Water Supply

The water supply is from the Irwell Valley Water Board's mains, and is constant. All houses are directly connected, the number of houses with piped supplies being 1,537. During 1939, small extensions have been carried out for building development.

Sewage Disposal.

The Method of sewage disposal during 1939 has again been quite satisfactory. Sewage is treated by settlement tanks and by percolating filters. Small extensions to the sewerage system have been carried out during the year for building development. The Mersey and Irwell Joint Committee's Inspectors have tested the effluent periodically during the year, and have found it satisfactory. One area, Leadbeater Fold, is without a proper drainage system, but is to be dealt with under a Clearance Order under the Housing Act. The flushing of sewers and cleaning of manholes has been carried out periodically.

The arrangements for scavenging and removal of house refuse have been quite efficient during the year. A covered wagon collects house refuse once a week, and refuse from privy closets once a fortnight. The refuse is disposed of by tipping on waste land.

Smoke Abatement.

The Council are members of the Manchester Regional Smoke Abatement Committee. The time limit for the emission of black smoke is two minutes per hour. There are 15 factory and works chimneys in the district and observations were taken periodically during 1939. One firm's attention was drawn to long periods of emission of black smoke from their chimney, and the matter was rectified. No legal proceedings were necessary.

Eradication of Bed Bugs.

Two Council houses were disinfected by the London Fumigation Company by means of Hydrogen

Cyanide Gas, and have been quite satisfactory since.

Other houses, when not too bad, are disinfected by the Local Authority.

Shops

Shops are inspected from time to time and as occasion demands. No action was necessary in any case.

Housing

Number of new Houses erected during 1939.

| | |
|--|-----|
| (a) Total (including numbers given separately under (b)) | 4 |
| (i) By the Local Authority | Nil |
| (ii) By other Local Authorities | Nil |
| (iii) By other bodies or persons | 4 |
| (b) With State assistance under the Housing Acts. | |
| (i) By the Local Authority | Nil |
| (ii) By other bodies | Nil |

Housing Conditions

Number of Houses owned by the Local Authority

| | |
|----------------------------|------------|
| 1. Under 1919 Scheme | 113 |
| 2. Under Housing Act 1923. | 11 |
| 3. Under Housing Act 1924. | 122 |
| 4. Erected during 1936. | 30 |
| 5. Erected during 1937. | 38 |
| 6. Erected during 1938. | 34 |
| Total | <u>348</u> |

Housing conditions are good on the whole, and the general standard of the houses is satisfactory. There are about 200 houses below the general standard, the chief defects being dampness, low ceilings and old age. There is now no overcrowding to be found. New Housing Schemes and Clearance Schemes are, of course, held up until the conclusion of hostilities, but the Council have a scheme for the erection of a further 26 houses when the time is opportune.

Town Planning.

The Council are members of the Bolton and District Regional Planning Committee, and representatives from the Council attend the meetings, and work in close harmony with the Committee, whilst the Council carries out, as far as possible, the wishes of the Committee.

Milk Supply.

The Farms and Dairies in the district have been periodically inspected and have been found to be in a clean condition.

Meat and other Foods.

There are no slaughter houses in the district, all slaughtering being carried out in abattoirs in neighbouring districts. Frequent visits are paid to all butchers' shops in the district. All have been kept in a satisfactory state.

Disinfection.

The number of houses disinfected after infectious diseases was 18. The method of disinfection is by Formaldehyde Gas.

Public Health Laboratory.

During 1939, nineteen swabs from suspected cases of Diphtheria were sent for examination to the Public Health Laboratory, Manchester. Of these, seven were found to be positive.

General Observations

The general health of the district during 1939 was reasonably good, although there was a large increase in the number of deaths and a considerable decrease in the number of births. Both the birth rate and the death rate compare very unfavourably with the rates for England and Wales.

No epidemic of any sort was experienced, and the incidence of infectious diseases was practically the same as in 1938.

Very little progress in the matter of sanitary improvements in the district can be shown during 1939, but this, of course, is due to the outbreak of War.

The chief needs of the district are the same as in 1938. Many more modern, low-rental cottages are required and there are still many houses which will have to be dealt with under Clearance Orders after the cessation of hostilities. The work of improving the district must be continued as soon as the opportunity presents itself.

The Clinics and Treatment Centres provided by the Lancashire County Council have again been most helpful, especially the Maternity and Child Welfare Centre, and have been greatly appreciated by the inhabitants of the district.

The recreational facilities provided by the Council in the Bowling Green and Playing Field have been well patronised by the public and have fully justified the expenditure that the Council have been put to in order to keep up their standard.

W. MOTTERWHEAD. M.B., Ch.B.,

Medical Officer of Health

February 22nd 1941.

